

CLAIMS

1. A circular resin-molded product having a circular center hole which is molded by means of injecting a molten resin into a mold through an injection gate and cooling and solidifying the injected molten resin,

the molten resin being injected into the mold through the injection gate formed by a cylindrical tubular channel, and

an annular gate trace being formed on a front or back surface of the circular resin-molded product at a radially predetermined position in such a manner as to project in an axial direction of the circular resin-molded product.

2. A circular resin-molded product according to claim 1, wherein the annular gate trace projecting in an axial direction of the circular resin-molded product is formed at a position adjacent to the circular center hole, at a position in the vicinity of an outer circumference of the circular resin-molded product, or at a radially central position.

3. A circular resin-molded product having a circular center hole according to claim 1, wherein the front and rear surfaces of the circular resin-molded product are generally flat without a thickness-reducing recess being formed thereon.

4. A method for manufacturing a circular resin-molded product having a circular center hole by means of injecting a molten resin into a mold through an injection gate and cooling and solidifying the injected molten resin, the method

comprising steps of:

forming the circular resin-molded product in the mold around a center pin having a diameter equivalent to a diameter of the circular center hole;

extending the center pin axially further away from a position corresponding to the circular resin-molded product, whereby the injection gate is constituted by a tubular channel formed by a cylindrical annular clearance formed within the mold around an extended portion of the center pin; and

injecting the molten resin through the injection gate constituted by the tubular channel.

5. A method for manufacturing a circular resin-molded product according to claim 4, wherein the clearance of the injection gate is reduced toward the circular resin-molded product and is the smallest at a tip end portion in contact with the circular resin-molded product.

6. A method for manufacturing a circular resin-molded product according to claim 4, wherein the center pin extends to a position near a runner portion through which the molten resin is introduced into the injection gate, so that the entire injection gate has a tubular shape, or the center pin extends only to a position near the circular resin-molded product, so that a tip end portion of the injection gate in contact with the circular resin-molded product has a tubular shape, and the remaining portion of the injection gate has a cylindrical columnar shape.

7. A method for manufacturing a circular resin-molded product according to claim 4, wherein the center pin comprises a first center pin used to form the circular resin-molded product, and a second center pin having a diameter greater than that of the first pin and used to form the tubular channel.

8. An apparatus for manufacturing a circular resin-molded product having a circular center hole by means of injecting a molten resin into a mold through an injection gate and cooling and solidifying the injected molten resin,

the mold forming the circular resin-molded product around a center pin having a diameter equivalent to a diameter of the circular center hole,

the center pin axially extending further away from a position corresponding to the circular resin-molded product, whereby the injection gate is constituted by a tubular channel formed by a cylindrical annular clearance formed within the mold around an extended portion of the center pin, and

the molten resin being injected through the injection gate constituted by the tubular channel.

9. An apparatus for manufacturing a circular resin-molded product according to claim 8, wherein the center pin extends to a position near a runner portion through which the molten resin is introduced into the injection gate, so that the entire injection gate has a tubular shape, or the center pin extends only to a position near the circular resin-molded

product, so that a tip end portion of the injection gate in contact with the circular resin-molded product has a tubular shape, and the remaining portion of the injection gate has a cylindrical columnar shape.

10. An apparatus for manufacturing a circular resin-molded product according to claim 8, wherein the center pin comprises a first center pin used to form the circular resin-molded product, and a second center pin having a diameter greater than that of the first pin and used to form the tubular channel.